

IN THE CLAIMS:

Amendments to the Claims

Please add the new claims as shown below.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (original) Magnetic resonance imaging apparatus comprising:
a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;
a gradient-field generating device;
a high-frequency field generating device; and
a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post members includes a plurality of segments formed in such a shape as to minimize leakage field strength from said first magnet device and said second magnet device.
2. (previously presented) Magnetic resonance imaging apparatus according to claim 1, wherein each of said first and second plate members and said support-post members includes a plurality of segments of different shapes and said segments are combined in a pattern to match lines of magnetic induction generated by said first and second magnetic devices.

3. (original) Magnetic resonance imaging apparatus according to Claim 1, wherein said first and second magnet devices are superconducting magnet devices, and said superconducting magnet devices each include a cryostat unit containing a superconducting coil to cool said superconducting coil, said cryostat units are mounted between said plurality of segments.

4. (original) Magnetic resonance imaging apparatus according to Claim 1, wherein said support-post members each include two support posts for connecting said first and second plate members at separate positions, and said two support posts are each formed by a combination of a plurality of segments.

5. (previously presented) Magnetic resonance imaging apparatus comprising:

- a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;

- a gradient-field generating device;

- a high-frequency field generating device; and

- a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post

members includes a plurality of segments formed in such a shape as to minimize leakage field strength from said first magnet device and said second magnet device;

wherein each of said first and second plate members and said support-post members includes a plurality of segments of different shapes and said segments are combined in a pattern to match lines of magnetic induction generated by said first and second magnetic devices; and

wherein said first and second plate members are formed by a larger number of segments at positions thereon where said first and second plate members are connected to said support-post members and also in vicinities of said positions than at the other positions.

6. (previously presented) Magnetic resonance imaging apparatus comprising:

a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;

a gradient-field generating device;

a high-frequency field generating device; and

a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post members includes a plurality of segments formed in such a shape as to minimize leakage field strength from said first magnet device and said second magnet device;

wherein each of said first and second plate members and said support-post members includes a plurality of segments of different shapes and said segments are combined in a pattern to match lines of magnetic induction generated by said first and second magnetic devices; and

wherein said first and second plate members have different numbers of segments at different positions based on a calculated magnetic flux distribution in said yoke.

7. (previously presented) Magnetic resonance imaging apparatus comprising:

a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;

a gradient-field generating device;

a high-frequency field generating device; and

a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post members includes a plurality of segments formed in such a shape as to minimize leakage field strength from said first magnet device and said second magnet device;

wherein each of said first and second plate members and said support-post members includes a plurality of segments of different shapes and said segments are

combined in a pattern to match lines of magnetic induction generated by said first and second magnetic devices; and

wherein said first and second plate members have segments of shapes to match a calculated magnetic flux distribution.

8. (previously presented) Magnetic resonance imaging apparatus comprising:

a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;

a gradient-field generating device;

a high-frequency field generating device; and

a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post members includes a plurality of segments formed in such a shape as to minimize leakage field strength from said first magnet device and said second magnet device;

wherein said first and second plate members and said support-post members are constructed by stacking in two or more layers segments formed by cutting steel plate.

Claims 9-12 (canceled)

13. (original) Magnetic resonance imaging apparatus according to Claim 1, wherein said shape to minimize said leakage field strength from said first and second magnet devices is a shape to match lines of magnetic induction generated by said first and second magnetic devices.

14. (previously presented) Magnetic resonance imaging apparatus comprising:

a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;

a gradient-field generating device;

a high-frequency field generating device; and

a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post members includes a plurality of segments formed in such a shape as to minimize leakage field strength from said first magnet device and said second magnet device;

wherein said shape to minimize said leakage field strength from said first and second magnet devices is a shape formed by varying a thickness of said segments according to a flux density of said leakage field generated by said first and second magnet devices.

15. (original) Magnetic resonance imaging apparatus according to Claim 4, wherein said cryostat unit has mounted therein a part for achieving a desired field uniformity in said examination space.

16. (original) Magnetic resonance imaging apparatus according to claim 1, wherein each of said first and second plate members and said support-post members includes a plurality of segments of different shapes and said segments are combined in a pattern to match lines of magnetic induction generated by said first and second magnetic devices, said shape to minimize said leakage field strength from said first and second magnet devices is shape to match lines of magnetic induction generated by said first and second magnetic devices, and said shape to minimize said leakage field strength from said first and second magnet devices is a shape formed by varying a thickness of said segments according to a flux density of said leakage field generated by said first and second magnet devices.

17. (original) Magnetic resonance imaging apparatus according to claim 2, wherein said first and second plate members have different numbers of segments at different positions based on a calculated magnetic flux distribution in said yoke, and said first and second plate members have segments of shapes to match a calculated magnetic flux distribution.

18. (original) Magnetic resonance imaging apparatus comprising:
a pair of a first magnet device and a second magnet device for generating a magnetostatic field, said pair of magnet devices being installed in face-to-face relation with each other across an examination space for accommodating an examinee;
a gradient-field generating device;

a high-frequency field generating device; and

a yoke for combining said first and second magnetic devices to guide magnetic fluxes generated by said first and second magnetic devices to thereby form a closed magnetic circuit, wherein said yoke includes a first plate member fixed to a first magnet device, a second plate member fixed to a second magnet device and one or more support-post members interconnecting said first plate member and said second plate member, each of said first and second plate members and support-post members includes a plurality of segments.

19. (original) Magnetic resonance imaging apparatus according to claim 18, wherein each of said first and second plate members and said support-post members includes a plurality of segments of different shapes.

20. (original) Magnetic resonance imaging apparatus according to claim 18, wherein said first and second plate members and said support-post members are constructed by stacking in two or more layer segments.

21. (new) Magnetic resonance imaging apparatus according to claim 1, wherein at least some of the plurality of segments are subdivided into smaller pieces forming a respective segment; and

each of said first and second plate members and support-post members is assembled from the plurality of segments including the smaller pieces thereof.

22. (new) Magnetic resonance imaging apparatus according to claim 5, wherein at least some of the plurality of segments are subdivided into smaller pieces forming a respective segment; and

each of said first and second plate members and support-post members is assembled from the plurality of segments including the smaller pieces thereof.

23. (new) Magnetic resonance imaging apparatus according to claim 6, wherein at least some of the plurality of segments are subdivided into smaller pieces forming a respective segment; and

each of said first and second plate members and support-post members is assembled from the plurality of segments including the smaller pieces thereof.

24. (new) Magnetic resonance imaging apparatus according to claim 7, wherein at least some of the plurality of segments are subdivided into smaller pieces forming a respective segment; and

each of said first and second plate members and support-post members is assembled from the plurality of segments including the smaller pieces thereof.

25. (new) Magnetic resonance imaging apparatus according to claim 8, wherein at least some of the plurality of segments are subdivided into smaller pieces forming a respective segment; and

each of said first and second plate members and support-post members is assembled from the plurality of segments including the smaller pieces thereof.

26. (new) Magnetic resonance imaging apparatus according to claim 14, wherein at least some of the plurality of segments are subdivided into smaller pieces forming a respective segment; and

each of said first and second plate members and support-post members is assembled from the plurality of segments including the smaller pieces thereof.

27. (new) Magnetic resonance imaging apparatus according to claim 18, wherein at least some of the plurality of segments are subdivided into smaller pieces forming a respective segment; and

each of said first and second plate members and support-post members is assembled from the plurality of segments including the smaller pieces thereof.